Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently amended): A method for forming an astigmatic focal beam spot to ablate and cut a substrate, said method comprising:

determining a target energy density for said substrate;

generating a raw laser beam;

expanding said raw laser beam;

modifying said expanded beam such that said modified beam is collimated in one principal meridian and converging in another principal meridian;

focusing said modified beam to produce an astigmatic focal beam spot on said substrate, said astigmatic focal beam spot having an elongated shape with a focused axis having a first focal point and an astigmatic axis having a second focal point separate from said first focal point, said astigmatic focal beam spot having a length along said astigmatic axis and a width along said focused axis, the width being less than the length, wherein said astigmatic focal beam spot is modified and focused to provide an energy density on said substrate at the target energy density for said substrate; and

moving said substrate in a cutting direction along said length of said astigmatic focal beam spot such that said astigmatic focal beam spot causes ablation of said substrate to obtain at least a partial cut in said substrate.

Claim 2 (Original): The method of claim 1 wherein said raw beam is generated using a solid state laser.

Claim 3 (Original): The method of claim 2 wherein said raw beam is generated in a UV range less than about 400 nm.

Claim 4 (Original): The method of claim 3 wherein said raw beam is generated with a pulse duration less than about 40 ns.

Claim 5 (Previously presented): The method of claim 1 wherein expanding said raw beam includes passing said raw beam through a beam expanding telescope.

Claim 6 (Previously presented): The method of claim 1 wherein modifying said expanded beam includes passing said expanded beam through an anamorphic lens system comprising a cylindrical plano-concave lens and a cylindrical plano-convex lens.

Claim 7 (Currently amended): The method of claim 1 further comprising varying the convergence of said modified beam to adjust the energy density provided by said astigmatic focal beam spot.

Claim 8 (Previously presented): The method of claim 1 wherein modifying said expanded beam includes passing said expanded beam through a single anamorphic lens to provide a fixed convergence.

Claim 9 (Previously presented): The method of claim 1 further comprising symmetrically cropping low intensity edges of said expanded beam.

Claim 10 (Currently amended): The method of claim 1 wherein focusing said modified beam comprises passing said modified beam through a beam focusing lens, ~~wherein said focused beam has two separate focal points,~~ wherein ~~one of~~ said second focal point ~~points~~ is shorter than a nominal focal length of said beam focusing lens and ~~the other of~~ said first focal point ~~points~~ is formed generally at said nominal focal length of said beam focusing lens.

Claim 11 (Original): The method of claim 1 wherein said substrate includes sapphire.

Claim 12 (Original): The method of claim 11 wherein said substrate includes a GaN layer on said sapphire, and wherein said astigmatic focal beam spot is directed at a surface of said GaN layer such that laser energy is coupled into said GaN layer to cause ablation of said sapphire.

Claim 13 (Currently amended): The method of claim 1 wherein said substrate is part of a semiconductor wafer including a device layer on said substrate, and wherein moving said substrate includes moving said semiconductor wafer along the length of said astigmatic focal beam spot to form at least one scribe line in said semiconductor wafer.

Claim 14 (Original): The method of claim 1 wherein said substrate is made of a material selected from the group consisting of metal, GaAs, silicon, GaP, InP, Ge, alumina, glass and polymers.

Claim 15 (Canceled)

Claim 16 (Original): The method of claim 1 wherein said astigmatic focal beam spot has a width of less than about 20 μm.

Claim 17 (Original): The method of claim 16 wherein said astigmatic focal beam spot has a width of about 5 μm.

Claim 18 (Canceled)

Claim 19 (Previously presented): The method of claim 1 wherein modifying said expanded beam includes creating a plurality of separated astigmatic beamlets.

Claim 20 (Previously presented): The method of claim 19 wherein modifying said expanded beam includes controlling at least one of a length of said beamlets and a distance between said beamlets.

Claims 21 – 41 (Canceled)

Claim 42 (Currently amended): The method of claim 13 ~~41~~ wherein moving said substrate ~~semiconductor wafer~~ along ~~a~~ the length of said astigmatic focal beam spot includes moving said semiconductor wafer to form a plurality of scribe lines in said semiconductor wafer.

Claim 43 (Previously Presented): The method of claim 42 further comprising separating said semiconductor wafer into dies using said plurality of scribe lines.

Claim 44 (Currently amended): The method of claim 1 ~~further comprising~~ wherein moving said substrate in a cutting direction comprises:

moving said substrate in a cutting direction along ~~a~~ the length of said astigmatic focal beam spot such that at least one said at least a partial cut is formed in an x direction on said substrate ;

rotating said substrate about 90 degrees; and

moving said substrate in a cutting direction along ~~a~~ the length of said astigmatic focal beam spot such that at least one said at least a partial cut is formed in a y direction on said substrate.

Claim 45 (Currently amended): The method of claim 6 further comprising varying an aspect ratio of said astigmatic focal beam spot to adjust the energy density provided by said astigmatic focal beam spot by varying a spacing between said cylindrical plano-concave lens and said cylindrical plano-convex lens.

Claim 46 (Currently amended): The method of claim 12 ~~further comprising~~ wherein moving said substrate includes moving said sapphire substrate along ~~a~~ the length of said astigmatic focal beam spot to form at least one scribe line in said sapphire substrate.

Claims 47 - 49 (Canceled)

Claim 50 (New): The method of claim 1 wherein said substrate includes a metal film made of a metal selected from the group consisting of molybdenum and copper.

Claim 51 (New): The method of claim 1 further comprising:

prior to causing ablation, applying a water soluble protective coating to said substrate, said protective coating including at least one surfactant in a water-soluble liquid glycerin.

Claim 52 (New): A method of cutting a substrate, said method comprising:

providing an anamorphic beam delivery system including a solid-state laser and a variable anamorphic lens system, the anamorphic beam delivery system being configured to form a variable astigmatic focal beam spot at a variable energy density;

determining a target energy density for the substrate;

adjusting the variable anamorphic lens system to vary an aspect ratio of the astigmatic focal beam spot such that the energy density of the astigmatic focal beam spot is provided at the target energy density for the substrate;

directing the astigmatic focal beam spot on the substrate, the astigmatic focal beam spot having an elongated shape with a focused axis having a first focal point and an astigmatic axis having a second focal point separate from the first focal point, the astigmatic focal beam spot having a length along the astigmatic axis and a width along the focused axis, the width being less than the length; and

moving the substrate in a cutting direction along the length of the astigmatic focal beam spot such that the astigmatic focal beam spot causes ablation of the substrate to obtain at least a partial cut in the substrate.

Claim 53 (New): The method of claim 52 wherein the substrate includes sapphire.

Claim 54 (New): The method of claim 53 wherein the target energy density is about 10 J/cm^2.

Claim 55 (New): The method of claim 53 wherein said substrate includes a GaN layer on said sapphire, and wherein said astigmatic focal beam spot is directed at a surface of said GaN layer such that laser energy is coupled into said GaN layer to cause ablation of said sapphire.

Claim 56 (New): The method of claim 55 wherein the target energy density is about 5 J/cm^2.

Claim 57 (New): The method of claim 52 wherein adjusting the variable anamorphic lens system to vary the aspect ratio of the astigmatic focal beam spot reduces the energy density of the astigmatic focal beam spot on the substrate without reducing power output of the laser.

Claim 58 (New): The method of claim 52 wherein said astigmatic focal beam spot has a width of less than about 20 μm.